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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,717	04/08/2005	Shuichi Kubota	1207-115	7748

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
LEE, GILBERT Y	
ART UNIT	**PAPER NUMBER**
3673	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,717	KUBOTA ET AL.	
	Examiner	Art Unit	
	Gilbert Y. Lee	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 11-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11,12 and 14* is/are rejected.

7)☒ Claim(s) *13,15 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 1/9/07 has been entered.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 5 and 6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, claims 5 and 6 have not been further treated on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (US Patent No. 5,499,825) in view of von Bonin (US Patent No. 5,382,387).

Regarding claims 1 and 2, the Maeda et al. reference discloses a spherical annular seal member which is used particularly in an exhaust pipe spherical joint, comprising:

a spherical annular base member (10) defined by a cylindrical inner surface (e.g. surface labeled at 11), a partially convex spherical surface (12), and large- (e.g. right most diameter in Fig. 1) and small (e.g. left most diameter in Fig. 1) diameter-side annular end faces of said partially convex spherical surface; and

an outer layer formed integrally with said partially convex spherical surface of said spherical annular base member, said spherical annular base member including a reinforcing member (13) made from a compressed metal wire net and a heat-resistant material (Col. 6, Lines 54-58) filling meshes of said metal wire net of said reinforcing member, compressed in such a manner as to be formed integrally with said reinforcing member in mixed form, and containing expanded graphite (Col. 4, Lines 22 and 23), said outer layer including a lubricating composition constituted of at least boron nitride and at least one of alumina and silica (Col. 4, Lines 35-38), an outer surface of said partially convex spherical surface exposed to an outside in said outer layer being formed into a smooth lubricating sliding surface (15) in which said lubricating composition and said reinforcing member are integrated in mixed form.

However, the modified Maeda et al. reference fails to explicitly disclose the addition of an organic phosphorus compound and the wt. % of the heat resistant material.

The von Bonin reference, a graphite material having phosphate (additional binders) and ortho-phosphoric acid (Col. 1, Lines 45-52 and column 2, Lines 45-54), discloses the wt. % of the expanded graphite being 100-5% by weight (Col. 2, Lines 16-20). Note that because the wt. % of the graphite is 100-5%, the wt. % of the phosphorus compound will be 0-95%.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an organic phosphorus compound and make the heat-resistant material contain 0.1 to 10.0 wt. % of said organic phosphorus compound and 90.0 to 99.9 wt. % of said expanded graphite in order to provide good binder properties (von Bonin, Col. 1, Lines 55-57)

Regarding claim 3, the Maeda et al. reference, as modified in claim 2, discloses the lubricating composition containing 70-90 wt.% of boron nitride and 10-30 wt.% of at least one of alumina and silica (Maeda et al., Col. 5, Lines 35-38).

Regarding claim 4, the Maeda et al. reference, as modified in claim 2, discloses the lubricating composition further containing polytetrafluoroethylene resin (Maeda et al., Col. 5, Lines 16-28).

Regarding claim 7, the Maeda et al. reference, as modified in claim 1 and 2, discloses the heat-resistant material containing said expanded graphite and said organic phosphorus compound of said spherical annular base member being exposed

on the cylindrical inner surface (Maeda et al., Col. 2, Lines 40-56). Note that the reinforcing member is covered by the heat resistant material.

Regarding claim 8, the Maeda et al. reference, as modified in claims 1 and 2, discloses the reinforcing member being constituted by said metal wire net of said spherical annular base member being exposed on said cylindrical inner surface (Maeda et al., Col. 2, Lines 40-56).

Regarding claim 9, the Maeda et al. reference, as modified in claim 1 and 2, discloses the heat-resistant material containing said expanded graphite and said organic phosphorus compound of said spherical annular base member being exposed on at least one of said annular end faces (Maeda et al., Col. 2, Lines 40-56). Note that the reinforcing member is covered by the heat resistant material.

5. Claims 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. in view of von Bonin as applied to claims 1-4 and 7-9 above, and further in view of Hutchings et al. (US Patent No. 6,102,995).

Regarding claims 11, 12, and 14, the modified Maeda et al. reference, discloses the invention substantially as claimed in claims 1 and 3.

However, the modified Maeda et al. reference fails to explicitly disclose the specific organic phosphorus compounds.

The Hutchings et al. reference, an expandable graphite material, discloses the organic phosphorus compound being selected from organic phosphonic acid (Hutchings

et al., Col. 7, Line 64 - Col. 8, Line 19) or phosphoric ester (Hutchings et al., Col. 7, Lines 19-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide phosphonic acid or phosphoric ester to the modified Maeda et al. reference in view of the teachings of the Hutchings et al. reference in order to provide a fire resistant composition (Hutchings et al., Col. 13, Lines 47-53).

Allowable Subject Matter

6. Claims 13, 15, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

8. With regards to the applicant's argument of the combination of Maeda et al. and Hutchings et al., the argument is not persuasive because the Hutchings et al. reference does teach a fire resistant material which is still considered to be a heat resistant material.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL
March 29, 2007

Patricia Engle
Supervisory Examiner
Tech. Center 3600